

Choosing a Shelf Primer

Cleaning and preparing kiln shelves is one of the least glamorous aspects of working with fused glass but the correct selection and use of a separator between the glass and the shelf is crucially important. Once you become comfortable with a product and find that it works, it is very difficult to find the time or energy to ask the question of whether what you are currently using is in fact the best option.

Owing to availability and supply issues in our local market, we found it necessary to import a large quantity of primer. We thought that was a good reason to ask the question what primer was best for us. We had previously used Hotline and Bullseye products and even flirted with several recipes found on the internet.

Methodology

We thought it best to apply a pseudo-scientific method to the testing, that is by testing each product under circumstances as identical as possible – i.e. same glass, same kiln, same process. Having identified candidates based on what was reasonably available to us, we then followed the manufacturer's instructions and fused 3 items with each product

- contour fuse mosaic style
- full fuse
- mesh pour

as well as a frit casting in a mold.

Performance was subjectively assessed against criteria we identified as important. Scoring was on a Likert scale where 1 was low and 5 was high. Whilst we used numbers, this methodology cannot validly be subject to numerical analysis such as total or averages as that requires a relative weighting for each criterion.

Notes

- the Hotline Shelf Primer was not tested for the mesh pour on the basis that the manufacturer had a specific high temperature product.
- the kiln paper was not used for the mesh pour based on previous experience that it does not work.
- the kiln paper was obviously not capable of being used in the casting mold.

Candidates

- Bullseye Shelf Primer
- Hotline Shelf Primer
- Hotline Hi Temp Primer
- Primo Primer
- Firing paper - unspecified brand

Criteria

Based on our experience with a range of products, we made a list of the things that we had liked or didn't like in the past. These were

- ease of mixing
- ease of application
- effectiveness
- nature/quality of finish
- ease/need of clean up - glass
- ease/need of clean up – shelf
- cost effectiveness

Table of Results

(1 is low performance, 5 is high performance)

	Bullseye	Hotline	Hi Temp	Primo	Paper
Mixing	3	4	4	2	N/A
Application	4	4	4	3	5
Effectiveness					
Contour	5	5	5	5	5
Full	4	4	4	5	5
Mesh	4	N/A	4	3	0
Casting	3	4	4	5	N/A
Finish	4	4	4	5	2
Clean Up Glass	4	4	4	5	3
Clean Up Shelf	3	3	4	5	4
Cost	3	4	4	4	1

Specific Comments

Mixing Primo is the hardest primer to mix. Its components take some additional time to saturate thoroughly. When first mixed, you need to leave it at least an hour. It also settles the most solidly of the primers when left overnight. Both the Hotline and Hi Temp are easier to remix after settling than Bullseye.

Application Primo was the hardest primer to apply. Each of the others dries quite rapidly between coats as the water either evaporates or is absorbed into the shelf. Primo tends to pool on the shelf surface. Following discussions with the manufacturer, it was ascertained that it is not necessary for it to fully dry between coats. That said, if it is allowed to pool too much in one corner of the shelf it will bubble off during use.

Effectiveness In contour and full fuses, neither Primo nor the paper showed any hint of not being an effective separator. Each of the others performed very well with only very minor issues. With the mesh fuse, both the Bullseye and Hotline Hi Temp performed well. Primo was an effective separator but there were some areas of concern where the glass had moved on the shelf during the process leaving marks suggesting that the Primo might not withstand much movement. For casting, Primo produced the cleanest result and showed the most detail in the finished piece.

Finish This was the most subjective criterion. I value a smooth finish on the rear of the fused glass whereas others may prefer texture. Primo produced a beautifully smooth finish on the rear. The paper left a heavy but consistent texture. All of the others performed well leaving some texture.

Clean Up Glass Primo required zero cleaning of the glass after fusing. The other liquids required only minor effort. Dealing with the residue of the paper was a little more difficult – it was very fine and fibrous so we resorted to fully immersing the pieces in water to avoid a dust hazard.

Clean Up Shelf The paper residue was easily removed (see note above re dust hazard). The Hi Temp primer was very easy to scrape off the shelf. Bullseye and Hotline both had moderate difficulty. Primo actually lived up to its claims and was removed with a stiff brush and no scaping at all.

Cost In the table above, we have used US retail prices (as per Delphi Glass) in this criterion. We had slightly different results using our actual costs after accounting for variances in supply and freight costs.

Overall Results

Which primer you choose will depend on which of the criterion are most important to you.

In our environment where we are fusing 3m² (30 sq feet) per day, cost, ease of clean up and ease of application are clearly important considerations.

We decided against using firing paper as our primary product on the basis of cost and also concerns about cleaning up the residue. That said, we will be keeping some on hand for day when we simply don't have the time to prepare shelves.

Bullseye Primer was a good all round product but surprisingly against our test criteria it was outperformed by the Hotline Hi Temperature primer. After the testing we did, it remains unclear why Hotline have both a regular and high temperature product as the high temperature product seems to work across the temperature range. An added benefit of the Hi Temp Primer is the claim – which we did not test – that it can also be used for bead release.

Based on the ease of clean up of both the shelves and the glass, and the great results with casting, we have selected Primo as our main primer supplemented by Hotline Hi-Temp for some applications. Personal preference as to finish of the rear of the fused piece was also a determining factor in this selection.

Other notes

The instructions provided with the Primo primer are poor. It is a fundamentally different product to any of the other primers and needs to be used differently to get good results. Given that we also resell products, we have decided that it will be necessary to draft our own set of instructions if we are to recommend this product to our customers.

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